CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. _____
FOR
CITY OF PORTOLA
FOR
CORRECTIVE ACTION AND CLOSURE OF
PORTOLA CLASS III MUNICIPAL SOLID WASTE LANDFILL
PLUMAS COUNTY

Compliance with this Monitoring and Reporting Program, with Title 27, California Code of Regulations, Section 20005, et seq. (hereafter Title 27), and with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements for Nonhazardous Solid Waste Discharges Regulated by Title 27 and/or Subtitle D (27 CCR §20005 et seq. and 40 CFR 258)*, dated April 2000, is ordered by Waste Discharge Requirements Order No. _____.

## A. REQUIRED MONITORING REPORTS

| | Report | Due |
|---|---|---|
| 1. | Groundwater Monitoring (Section D.1) | **See Table I** |
| 2. | Corrective Action Status Reports (Order No. _____, D.2) | **With 2nd and 4th Quarter Monitoring Report** |
| 2. | Annual Monitoring Summary Report (Order No. _____, E.7) | **Annually by 31 January** |
| 3. | Facility Monitoring (Section D.4) | **Annually by 15 November** |
| 4. | Response to a Release (Standard Provisions and Reporting Requirements) | **As necessary** |

## B. REPORTING

The Discharger shall report monitoring data and information as required in this Monitoring and Reporting Program and as required in Order No. _____ and the Standard Provisions and Reporting Requirements. Reports that do not comply with the required format will be **REJECTED** and the Discharger shall be deemed to be in noncompliance with the waste discharge requirements. In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly compliance with the waste discharge requirements or lack thereof. Data shall also be submitted in a digital format acceptable to the Executive Officer.

Each monitoring report shall include a compliance evaluation summary as specified in Section E.5 Reporting Requirements, of Order No. _____.

Field and laboratory tests shall be reported in each monitoring report. Quarterly and annual monitoring reports shall be submitted to the Regional Board in accordance with the following schedule for the calendar period in which samples were taken or observations made.

| Sampling Frequency | Reporting Frequency | Reporting Periods End | Report Date Due |
|---|---|---|---|
| Quarterly | Quarterly | 31 March | **30 April** |
| | | 30 June | **31 July** |
| | | 30 September | **31 October** |
| | | 31 December | **31 January** |
| Annually | Annually | 31 December | **31 January** |

The Discharger shall submit an **Annual Monitoring Summary Report** to the Regional Board covering the previous monitoring year. The annual report shall contain the information specified in E.7 Reporting Requirements of Order No. _____ and a discussion of compliance with the Waste Discharge Requirements and the Water Quality Protection Standard.

The results of **all monitoring** conducted at the site shall be reported to the Regional Board in accordance with the reporting schedule above for the calendar period in which samples were taken or observations made.

## C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

### 1. Water Quality Protection Standard Report

The Discharger shall revise and update the Water Quality Protection Standard in accordance with D.4 Corrective Action and Evaluation Monitoring Specifications of Order No. _____.

For each waste management unit (Unit), the Water Quality Protection Standard shall consist of all constituents of concern, the concentration limit for each constituent of concern, the point of compliance, and all water quality monitoring points.

The Water Quality Protection Standard for naturally occurring waste constituents

consists of the constituents of concern, the concentration limits, the point of compliance, and all monitoring points. The Executive Officer shall review and approve the Water Quality Protection Standard, or any modification thereto, for each monitored medium.

The report shall:

a. Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a Unit or portion of a Unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.

b. Include a map showing the monitoring points and background monitoring points for the surface water monitoring program and the groundwater monitoring program. The map shall include the point of compliance in accordance with §20405 of Title 27.

c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).

If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the Water Quality Protection Standard.

## 2. Constituents of Concern

The constituents of concern include all the waste constituents, their reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the Unit. The constituents of concern for all Units at the facility are those listed in Tables I through IV for the specified monitored medium. The Discharger shall monitor all constituents of concern at the frequencies listed in Tables I through III for the specified monitoring medium and in accordance with a Corrective Action Program and State Water Resources Control Board Resolution No. 93-62 *Policy for Regulation of Discharges of Municipal Solid Waste*.

### a. Monitoring Parameters

Monitoring parameters are constituents of concern that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a Unit. The monitoring parameters for the Unit are those listed in Tables I through III

and Table V for the specified monitored medium.

**3. Concentration Limits**

For a naturally occurring constituent of concern, the concentration limit shall be determined as follows:

a. By calculation in accordance with a statistical method pursuant to §20415 of Title 27; or

b. By an alternate statistical method acceptable to the Executive Officer in accordance with §20415 of Title 27.

**4. Point of Compliance**

The point of compliance for the water standard at each Unit is a vertical surface located at the hydraulically downgradient limit of the Unit that extends through the uppermost aquifer underlying the Unit.

**5. Compliance Period**

The compliance period for each Unit shall be the number of years equal to the active life of the Unit plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the Unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program.

## D. MONITORING

The Discharger shall comply with the corrective action and evaluation monitoring program provisions of Title 27 for groundwater and surface water in accordance with Corrective Action and Evaluation Monitoring Specification D.1 of Waste Discharge Requirements, Order No. _____. All monitoring shall be conducted in accordance with a Sample Collection and Analysis Plan, which includes quality assurance/quality control standards, that is acceptable to the Executive Officer.

All point of compliance monitoring wells established for the corrective action and evaluation monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All corrective action and evaluation monitoring program groundwater monitoring wells and surface water monitoring points shall be sampled and analyzed for monitoring parameters and constituents of concern as indicated and listed in Tables I, III, IV, and V.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those that cannot be quantified and/or specifically identified. Metals shall be analyzed in accordance with the methods listed in Table IV.

The Discharger may, with the approval of the Executive Officer, use alternative analytical test methods, including new USEPA approved methods, provided the methods have method detection limits equal to or lower than the analytical methods specified in this Monitoring and Reporting Program.

**1. Groundwater (Site Monitoring Wells and Private Domestic Supply Wells)**

The Discharger shall operate and maintain a groundwater monitoring system that complies with applicable provisions of §20415 and §20430 of Title 27 in accordance with a Corrective Action and Evaluation Monitoring Program approved by the Executive Officer. The Discharger shall collect, preserve, and transport groundwater samples in accordance with an approved Sample Collection and Analysis Plan. Nine groundwater monitoring wells exist at the site as described below:

| Well I.D. | Service Type | *Location | Depth | Screen Interval |
|---|---|---|---|---|
| MW-1 | Background | 450 ft. E of upper Unit | 50.5 ft. | 30.5 to 50.5 bgs. |
| MW-2 | Downgradient - Point of Compliance | 50 ft. SSE of lower Unit | 57.5 ft. | 38 to 57.5 ft. bgs. |
| MW-3 | Downgradient - Point of Compliance | 150 ft SSW of lower Unit | 48 ft. | 14 to 48 ft. bgs. |
| MW-4 | Downgradient - Point of Compliance | 50 ft. SW of lower Unit | 47 ft. | 27 to 47 ft. bgs. |
| MW-5 | Crossgradient - Point of Compliance | 60 ft. W of upper Unit | 37 ft. | 17 to 37 ft. bgs. |
| MW-6 | Downgradient - Point of Compliance | 500 ft. S of lower Unit | 24.5 ft. | 14.5 to 24.5 ft. bgs. |
| MW-7 | Downgradient - Point of Compliance | 200 ft SSE of lower Unit | 45 ft. | 25 to 45 ft. bgs. |
| MW-8S | Downgradient - Point of Compliance | 150 ft. S of lower Unit | 25 ft. | 15 to 25 ft. bgs. |
| MW-8D | Downgradient - Point of Compliance | 150 ft. S of lower Unit | 49 ft. | 44 to 49 ft. bgs. |

bgs = Below Ground Surface
* Location distances are estimated

This Order requires the Discharger to obtain samples quarterly from each well described above, **with the exception of MW-2**, and analyze for the monitoring parameters and constituents of concern using the methods and at the frequencies

listed in Tables I, IV, and V. Additional wells may be added to the monitoring system in accordance with the Corrective Action and Evaluation Monitoring Program.

The Discharger shall also sample **the Mack (APN 125-080-018), Oestreich (APN 125-080-025), and the Prinvale (APN 125-080-024) private domestic supply wells**, due to previous detections of volatile organic compounds (VOCs) and the proximity of these wells to the landfill. Samples from these wells shall be obtained quarterly and analyzed for VOCs. During the first and third calendar quarter annually, domestic water supply samples shall be analyzed for VOCs using EPA Method 8260 extended list as specified in Tables IV. During the second and fourth calendar quarter annually, the domestic water supply wells shall be analyzed for VOCs using EPA Method 8260 short list as specified in Table V. The locations of these monitoring points shall be indicated on a site map to be submitted with each quarterly report. Additional private domestic supply wells may be added to the groundwater monitoring system in accordance with the Corrective Action and Evaluation Monitoring Program.

At each quarterly monitoring event, the Discharger shall measure the groundwater surface elevation (in feet and hundredths MSL) in order to determine the groundwater flow rate and direction in the uppermost aquifer and in any zones of perched water and in any additional zone of saturation monitored pursuant to this Monitoring and Reporting Program.

Hydrographs of each well shall be submitted showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared and submitted quarterly.

The monitoring parameters shall also be evaluated each reporting period with regards to the cation/anion balance, and the results shall be graphically presented using a Stiff diagram, a Piper graph, or a Schoeller plot.

**2. Leachate Monitoring**

The Unit is unlined and there are no leachate monitoring devises or sample points. Leachate seeps are not anticipated after site closure is completed. However, the possibility exists for leachate to discharge at the ground surface outside of the closed Unit. If leachate is observed discharging, the Discharger shall immediately obtain a sample and analyze it for all constituents listed in Table II. Emergency steps shall be taken to contain the discharge on site and the Discharger shall notify Regional Board staff by phone or e-mail within 48 hours of the observation. Locations of any observed leachate seep shall be indicated on

a facility map and submitted with each quarterly monitoring report.

**3. Surface Water Monitoring**

There are no existing surface water monitoring points and the Discharger has not implemented a surface water monitoring program. However, an intermittent surface spring has been identified near a fault structure northeast of the Unit near MW-1. The fault structure is thought to impede groundwater flow downhill towards the landfill. Additional intermittent surface springs may exist south and topographically downgradient in the swale below the Unit and along Meadow Way below the landfill. The Discharger shall investigate and determine the presence or absence of surface springs adjacent and below the landfill as part of the required Standard Observations specified in E.5.e. Reporting Requirements of Order No. _____. Surface springs are most likely to occur in late winter and throughout spring and the Discharger shall report the dates of the Standard Observation inspections for surface springs in each quarterly monitoring report. If surface springs are observed topographically cross or down gradient of the Unit, then the Discharger shall obtain samples from each identified spring meeting the above criteria and analyze the sample(s) for the monitoring parameters and constituents of concern using the methods and at the frequencies listed in
Table III. All surface springs located within 2,000 feet of the Unit shall be indicated on a facility map to be included with each quarterly monitoring report.

**4. Facility Monitoring**

a. **Facility Inspection**

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall assess damage to the drainage control system, groundwater monitoring equipment (including wells, etc.), and shall include the Standard Observations contained in section E.5.e. of Order No. _____. Any necessary construction, maintenance, or repairs shall be completed by **31 October**. By **15 November** of each year, the Discharger shall submit an annual report describing the results of the inspection and the repair measures implemented, including photographs of the problem and the repairs.

b. **Storm Events**

The Discharger shall inspect all precipitation, diversion, and drainage facilities for damage **within 7 days** following *major storm events*. Major

storm events are defined as 1.5 inches or more of precipitation within a 24-hour period and/or 0.5 inches or more of precipitation within a 24-hour period when snow is covering the ground. Dates of inspections conducted after major storm events shall be reported in each quarterly monitoring report. Necessary repairs shall be completed **within 30 days** of the inspection. The Discharger shall report any damage and subsequent repairs within 45 days of completion of the repairs, including photographs of the problem and the repairs.

The Discharger shall implement the above monitoring program on the effective date of this Program.

Ordered by:_____
THOMAS R. PINKOS, Executive Officer

_____
(Date)

DPS/KLC:1/20/05

## TABLE I

## GROUNDWATER CORRECTIVE ACTION AND EVALUATION MONITORING PROGRAM

| Parameter | Units | Frequency |
|---|---|---|
| **Field Parameters** | | |
| Groundwater Elevation | Ft. & hundredths, M.S.L. | Quarterly |
| Temperature | $^{o}C$ | Quarterly |
| Electrical Conductivity | µmhos/cm | Quarterly |
| pH | pH units | Quarterly |
| Turbidity | Turbidity units | Quarterly |
| **Monitoring Parameters** | | |
| Total Dissolved Solids (TDS) | mg/L | Quarterly |
| Chloride | mg/L | Quarterly |
| Carbonate | mg/L | Quarterly |
| Bicarbonate | mg/L | Quarterly |
| Nitrate - Nitrogen | mg/L | Quarterly |
| Sulfate | mg/L | Quarterly |
| Calcium | mg/L | Quarterly |
| Magnesium | mg/L | Quarterly |
| Potassium | mg/L | Quarterly |
| Sodium | mg/L | Quarterly |
| Volatile Organic Compounds (USEPA Method 8260, short list specified in Table V) | µg/L | 2$^{st}$ & 4$^{th}$ Quarter |
| Volatile Organic Compounds (USEPA Method 8260, extended list specified in Table IV) | µg/L | 1$^{st}$ & 3$^{rd}$ Quarter |
| **Constituents of Concern (see Table IV)** | | |
| Inorganics (dissolved) | mg/L | Annually |
| Semi-Volatile Organic Compounds (USEPA Method 8270C) | µg/L | 2 years |
| Chlorophenoxy Herbicides (USEPA Method 8151A) | µg/L | 5 years |
| Organophosphorus Compounds (USEPA Method 8141A) | µg/L | 5 years |

## TABLE II

## LEACHATE CORRECTIVE ACTION AND EVALUATION MONITORING PROGRAM

| Parameter | Units | Frequency |
|---|---|---|
| **Field Parameters** | | |
| Estimated Total Flow | Gallons | Upon Detection |
| Estimated Flow Rate | Gallons/Day | Upon Detection |
| Electrical Conductivity | µmhos/cm | Upon Detection |
| pH | pH units | Upon Detection |
| **Monitoring Parameters** | | |
| Total Dissolved Solids (TDS) | mg/L | Upon Detection |
| Chloride | mg/L | Upon Detection |
| Carbonate | mg/L | Upon Detection |
| Bicarbonate | mg/L | Upon Detection |
| Nitrate - Nitrogen | mg/L | Upon Detection |
| Sulfate | mg/L | Upon Detection |
| Calcium | mg/L | Upon Detection |
| Magnesium | mg/L | Upon Detection |
| Potassium | mg/L | Upon Detection |
| Sodium | mg/L | Upon Detection |
| **Constituents of Concern (see Table IV)** | | |
| Inorganics (dissolved) | mg/L | Upon Detection |
| Volatile Organic Compounds (USEPA Method 8260B, extended list) | µg/L | Upon Detection |
| Semi-Volatile Organic Compounds (USEPA Method 8270C) | µg/L | Upon Detection |
| Chlorophenoxy Herbicides (USEPA Method 8151A) | µg/L | Upon Detection |
| Organophosphorus Compounds (USEPA Method 8141A) | µg/L | Upon Detection |

## TABLE III

## SURFACE WATER (SPRINGS) CORRECTIVE ACTION AND EVALUATION MONITORING PROGRAM

| Parameter | Units | Frequency |
|---|---|---|
| **Field Parameters** | | |
| Estimated Flow Rate | gallons/minute | |
| Temperature | $^{o}C$ | Upon Detection |
| Electrical Conductivity | µmhos/cm | Upon Detection |
| pH | pH units | Upon Detection |
| Turbidity | Turbidity units | Upon Detection |
| **Monitoring Parameters** | | |
| Total Dissolved Solids (TDS) | mg/L | Upon Detection |
| Carbonate | mg/L | Upon Detection |
| Bicarbonate | mg/L | Upon Detection |
| Chloride | mg/L | Upon Detection |
| Nitrate - Nitrogen | mg/L | Upon Detection |
| Sulfate | mg/L | Upon Detection |
| Calcium | mg/L | Upon Detection |
| Magnesium | mg/L | Upon Detection |
| Potassium | mg/L | Upon Detection |
| Sodium | mg/L | Upon Detection |
| Inorganics (dissolved) | mg/L | Upon Detection |
| Volatile Organic Compounds (USEPA Method 8260B, extended list specified in Table IV) | µg/L | Upon Detection |
| **Constituents of Concern (see Table IV)** | | |
| Semi-Volatile Organic Compounds (USEPA Method 8270C) | µg/L | As directed by the Executive Officer |
| Chlorophenoxy Herbicides (USEPA Method 8151A) | µg/L | As directed by the Executive Officer |
| Organophosphorus Compounds (USEPA Method 8141A) | µg/L | As directed by the Executive Officer |

## TABLE IV

## CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

| **Inorganics (dissolved):** | **USEPA Method** |
|---|---|
| Aluminum | 6010 |
| Antimony | 7041 |
| Barium | 6010 |
| Beryllium | 6010 |
| Cadmium | 7131A |
| Chromium | 6010 |
| Cobalt | 6010 |
| Copper | 6010 |
| Silver | 6010 |
| Tin | 6010 |
| Vanadium | 6010 |
| Zinc | 6010 |
| Iron | 6010 |
| Manganese | 6010 |
| Arsenic | 7062 |
| Lead | 7421 |
| Mercury | 7470A |
| Nickel | 7521 |
| Selenium | 7742 |
| Thallium | 7841 |
| Cyanide | 9010B |
| Sulfide | 9030B |

**Volatile Organic Compounds (extended list):**

**USEPA Method 8260**

Acetone
Acetonitrile (Methyl cyanide)
Acrolein
Acrylonitrile
Allyl chloride (3-Chloropropene)
Benzene
Bromochloromethane (Chlorobromomethane)
Bromodichloromethane (Dibromochloromethane)
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Chloroprene
Dibromochloromethane (Chlorodibromomethane)

## TABLE IV

## CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

### Continued

1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans- 1,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC 12)
1,1 -Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1, l-Dichloroethene; Vinylidene chloride)
cis- l ,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans- l ,2-Dichloroethylene (trans- 1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
1,3-Dichloropropane (Trimethylene dichloride)
2,2-Dichloropropane (Isopropylidene chloride)
1,1 -Dichloropropene
cis- 1,3-Dichloropropene
trans- l ,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
Ethyl methacrylate
Hexachlorobutadiene
Hexachloroethane
2-Hexanone (Methyl butyl ketone)
Isobutyl alcohol
Methacrylonitrile
Methyl bromide (Bromomethane)
Methyl chloride (Chloromethane)
Methyl ethyl ketone (MEK; 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether
Methyl methacrylate
4-Methyl-2-pentanone (Methyl isobutyl ketone)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Naphthalene
Propionitrile (Ethyl cyanide)
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane

## TABLE IV

## CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

### Continued

Tetrachloroethylene (Tetrachloroethene; Perchloroethylene; PCE)
Toluene
1,2,4-Trichlorobenzene
1,1,1 -Trichloroethane, Methylchloroform
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene; TCE)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride (Chloroethene)
Xylene (total)

**Semi-Volatile Organic Compounds:**

**USEPA Method 8270 - base, neutral, & acid extractables**

Acenaphthene
Acenaphthylene
Acetophenone
2-Acetylaminofluorene (2-AAF)
Aldrin
4-Aminobiphenyl
Anthracene
Benzo[a]anthracene (Benzanthracene)
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[g,h,i]perylene
Benzo[a]pyrene
Benzyl alcohol
Bis(2-ethylhexyl) phthalate
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC (Lindane)
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl) ether (Dichloroethyl ether)
Bis(2-chloro-1-methyethyl) ether (Bis(2-chloroisopropyl) ether; DCIP)
4-Bromophenyl phenyl ether
Butyl benzyl phthalate (Benzyl butyl phthalate)
Chlordane
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol (4-Chloro-3-methylphenol)
2-Chloronaphthalene
2-Chlorophenol

## TABLE IV

## CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

### Continued

4-Chlorophenyl phenyl ether
Chrysene
o-Cresol (2-methylphenol)
m-Cresol (3-methylphenol)
p-Cresol (4-methylphenol)
4,4'-DDD
4,4'-DDE
4,4'-DDT
Diallate
Dibenz[a,h]anthracene
Dibenzofuran
Di-n-butyl phthalate
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Dieldrin
Diethyl phthalate
p-(Dimethylamino)azobenzene
7,12-Dimethylbenz[a]anthracene
3,3'-Dimethylbenzidine
2,4-Dimehtylphenol (m-Xylenol)
Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Ethyl methanesulfonate
Famphur
Fluoranthene
Fluorene
Heptachlor
Heptachlor epoxide
Hexachlorobenzene
Hexachlorocyclopentadiene
Hexachloropropene
Indeno(1,2,3-c,d)pyrene

## TABLE IV

## CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

### Continued

Isodrin
Isophorone
Isosafrole
Kepone
Methapyrilene
Methoxychlor
3-Methylcholanthrene
Methyl methanesulfonate
2-Methylnaphthalene
1,4-Naphthoquinone
1-Naphthylamine
2-Naphthylamine
o-Nitroaniline (2-Nitroaniline)
m-Nitroaniline (3-Nitroaniline)
p-Nitroaniline (4-Nitroaniline)
Nitrobenzene
o-Nitrophenol (2-Nitrophenol)
p-Nitrophenol (4-Nitrophenol)
N-Nitrosodi-n-butylamine (Di-n-butylnitrosamine)
N-Nitrosodiethylamine (Diethylnitrosamine)
N-Nitrosodimethylamine (Dimethylnitrosamine)
N-Nitrosodiphenylamine (Diphenylnitrosamine)
N-Nitrosodipropylamine (N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine)
N-Nitrosomethylethylamine (Methylethylnitrosamine)
N-Nitrosopiperidine
N-Nitrosospyrrolidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene (PCNB)
Pentachlorophenol
Phenacetin
Phenanthrene
Phenol
p-Phenylenediamine
Polychlorinated biphenyls (PCBs; Aroclors)
Pronamide
Pyrene
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
o-Toluidine
Toxaphene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol

## TABLE IV

## CONSTITUENTS OF CONCERN & APPROVED USEPA ANALYTICAL METHODS

## Continued

0,0,0-Triethyl phosphorothioate
sym-Trinitrobenzene

### Chlorophenoxy Herbicides:

**USEPA Method 8l51A**
2,4-D (2,4-Dichlorophenoxyacetic acid)
Dinoseb (DNBP; 2-sec-Butyl-4,6-dinitrophenol)
Silvex (2,4,5-Trichlorophenoxypropionic acid; 2,4,5-TP)
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)

### Organophosphorus Compounds:

**USEPA Method 8141A**
Atrazine
Chlorpyrifos
0,0-Diethyl 0-2-pyrazinyl phosphorothioate (Thionazin)
Diazinon
Dimethoate
Disulfoton
Ethion
Methyl parathion (Parathion methyl)
Parathion
Phorate
Simazine

## TABLE V

## MONITORING PARAMETERS FOR CORRECTIVE ACTION AND EVALUATION MONITORING

**Constituents included in VOC (short list):**

**USEPA Method 8260B**

Acetone
Acrylonitrile
Benzene
Bromochloromethane
Bromodichloromethane
Bromoform (Tribromomethane)
Carbon disulfide
Carbon tetrachloride
Chlorobenzene
Chloroethane (Ethyl chloride)
Chloroform (Trichloromethane)
Dibromochloromethane (Chlorodibromomethane)
1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (Ethylene dibromide; EDB)
o-Dichlorobenzene (1,2-Dichlorobenzene)
m-Dichlorobenzene (1,3-Dichlorobenzene)
p-Dichlorobenzene (1,4-Dichlorobenzene)
trans- l ,4-Dichloro-2-butene
Dichlorodifluoromethane (CFC-12)
1,1-Dichloroethane (Ethylidene chloride)
1,2-Dichloroethane (Ethylene dichloride)
1,1 -Dichloroethylene (1,1 -Dichloroethene; Vinylidene chloride)
cis- 1,2-Dichloroethylene (cis- 1,2-Dichloroethene)
trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)
1,2-Dichloropropane (Propylene dichloride)
cis- 1,3-Dichloropropene
trans- 1,3-Dichloropropene
Di-isopropylether (DIPE)
Ethanol
Ethyltertiary butyl ether
Ethylbenzene
2-Hexanone (Methyl butyl ketone)
Hexachlorobutadiene
Hexachloroethane
Methyl bromide (Bromomethene)
Methyl chloride (Chloromethane)
Methylene bromide (Dibromomethane)
Methylene chloride (Dichloromethane)
Methyl ethyl ketone (MEK: 2-Butanone)
Methyl iodide (Iodomethane)
Methyl t-butyl ether

## TABLE V

## MONITORING PARAMETERS FOR CORRECTIVE ACTION AND EVALUATION MONITORING

### Continued

4-Methyl-2-pentanone (Methyl isobutylketone)
Naphthalene
Styrene
Tertiary amyl methyl ether
Tertiary butyl alcohol
1,1,1,2-Tetrachloroethane
1,1.2,2-Tetrachloroethane
Tetrachloroethylene (Tetrachloroethene; Perchloroethylene)
Toluene
1,2,4-Trichlorobenzene
1,1,1-Trichloethane (Methylchloroforrn)
1,1,2-Trichloroethane
Trichloroethylene (Trichloroethene)
Trichlorofluoromethane (CFC- 11)
1,2,3-Trichloropropane
Vinyl acetate
Vinyl chloride
Xylenes